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Drilling Down: New York, Hydraulic Fracturing, and the Dormant Commerce Clause

*Meredith A. Wegener**

I. INTRODUCTION

The debate surrounding hydraulic fracturing and natural gas development from shale rock needs no embellishment. This highly sought resource and highly fought drilling technique trigger significant concerns: human health, energy independence, national security, water safety, air quality, agricultural well-being, outdoor aesthetic impairment, government involvement at *all* levels and by *all* branches, and economic development and sustainability. Whether actively participating in this conversation or not, everyone has a stake in the resolution of whether to allow this technique to be utilized and these resources to be produced.

Shale gas is natural gas trapped within shale sedimentary rock formations.¹ The technological combination of horizontal drilling and hydraulic fracturing in unconventional drilling has allowed access to large volumes of this otherwise trapped shale gas that was previously uneconomical to produce.² According to industry projections, one of the big frontiers for shale gas development is in New York State.³

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1. *Energy in Brief: What Is Shale Gas and Why Is It Important?*, U.S. ENERGY INFO. ADMIN., (Dec. 5, 2012), http://www.eia.gov/energy_in_brief/article/about_shale_gas.cfm (last visited Apr. 12, 2014) [hereinafter *Energy in Brief*].

2. *Id.*

3. Karen Edelstein, *NY State Hydraulic Fracturing Bans Relative to Population*,

Incentives for natural gas drilling and production in New York and elsewhere are numerous. For example, natural gas is cleaner-burning than coal or oil, domestic, and (if allowed to be produced) plentiful in supply.⁴ Combustion of natural gas emits significantly lower levels of carbon dioxide and sulfur dioxide than combustion of coal or oil.⁵ When used in efficient combined-cycle power plants, natural gas combustion can emit less than half as much carbon dioxide as coal combustion.⁶ Production of natural gas resources found throughout the United States in various formations eliminates the need to import this fuel source.

Despite the benefits associated with natural gas production, drilling and production of the New York shale gas through horizontal drilling and hydraulic fracturing are highly contested locally and statewide.⁷ New Yorkers are concerned about the risks unconventional drilling practices carry: potential air, water, land, and aesthetic pollution. Consequently, at the state level, well permit issuance for horizontal drilling and high volume hydraulic fracturing to develop shale gas reservoirs has been on hold since 2008.⁸ No high volume hydraulic fracturing permits have been approved since that time, and any high volume hydraulic fracturing permits will not be issued until the Supplemental Generic Environmental Impact Statement is complete (SGEIS).⁹ After more than five years of discussion, two versions of the SGEIS, and hundreds of thousands of comments on the SGEIS and regulatory framework, New York State has been unsuccessful in establishing a workable regulatory scheme that will allow for shale gas development. At the local level, New York State municipalities began invoking home rule laws to prohibit high volume

FRACTRACKER.ORG (July 4, 2013), <http://www.fractracker.org/2013/07/bans-n-pop-ny/> (last visited Apr. 4, 2014) [hereinafter Edelstein, *NY State Hydraulic Fracturing Bans*].

4. *Energy in Brief*, *supra* note 1.

5. *Id.*

6. *Id.*

7. Edelstein, *NY State Hydraulic Fracturing Bans*, *supra* note 3.

8. *Well Permits in Spacing Units Which Conform to Statewide Spacing in New York State*, in MINERAL RES. ENVTL. NOTICE BULLETIN, N.Y. STATE DEPT. OF ENVTL. CONSERVATION, (July 31, 2013), http://www.dec.ny.gov/dmndata/Well_Reports/Unit_Spacing_SW_Rpt.html (last visited Apr. 4, 2014).

9. *Id.*

hydraulic fracturing for natural gas as early as 2010.¹⁰ These towns learned that while they may not be able to outright regulate against drilling, they could rely on zoning powers “to determine appropriate land uses within [their] boundaries” and pass moratoria that effectively prohibit any party that ultimately may receive a permit from the state from horizontally drilling and hydraulically fracturing a shale gas well within the town boundaries.¹¹

With a population of roughly 19.6 million people, New York State and its municipalities consume natural gas.¹² New Yorkers heat their homes with natural gas.¹³ They power their lives with natural gas.¹⁴ They enjoy the benefits of natural gas while simultaneously preventing one of its largest sources from being explored and produced.

In recent years, lawsuits have been filed challenging the natural gas drilling moratoria. These lawsuits have been predicated on challenges to local authority and the Takings Clause.¹⁵ In June 2013, the first lawsuit was filed challenging one of these local bans based on the dormant Commerce Clause.¹⁶ The U.S. Supreme Court held in *Pike v. Bruce Church, Inc.*,¹⁷ that the dormant Commerce Clause may be invoked when a state law burdens interstate commerce by giving in-state preferences at the expense of out-of-state entities.¹⁸ However, even state laws that are facially neutral “may still violate the dormant Commerce Clause if the burden imposed on interstate commerce is

10. Edelstein, *NY State Hydraulic Fracturing Bans*, *supra* note 3.

11. *See id.*

12. *New York: State Profile and Energy Estimates*, U.S. ENERGY INFO. ADMIN., <http://www.eia.gov/state/?sid=NY> (last updated July 2012) (last visited Apr. 4, 2014).

13. *Id.*

14. *Id.*

15. *Cooperstown Holstein Corp. v. Town of Middlefield*, 106 A.D.3d 1170, *leave to appeal granted*, 995 N.E.2d 851 (N.Y. Sup. Ct. App. Div. 3rd 2013); *Norse Energy Corp. USA v. Town of Dryden*, 108 A.D.3d 25, *leave to appeal granted*, 995 N.E.2d 851 (N.Y. Sup. Ct. App. Div. 3rd 2013).

16. Steve Reilly, *Sidney Landowners Exploring Ways to Repeal Moratorium*, DEMOCRAT AND CHRONICLE (June 23, 2013, 6:01 PM), <http://www.democratandchronicle.com/article/CB/20130623/NEWS01/306230020/Sidney-landowners-exploring-ways-repeal-moratorium> (last visited Apr. 4, 2014); Verified Petition at 7, *Grafe-Kieklak v. Town of Sidney*, Index No. 000602/2013, RJI No. 13-0220 (N.Y. Sup. Ct. June 12, 2013) (unpublished petition) (on file with author) [hereinafter *Grafe-Kieklak*].

17. *Pike v. Bruce Church, Inc.*, 397 U.S. 137 (1970).

18. *Id.* at 142; Alexandra B. Klass, *Climate Change and the Convergence of Environmental and Energy Law*, 24 FORDHAM ENVTL. L. REV. 180, 192 (2013).

‘clearly excessive’ in relation to the local benefits.”¹⁹ The *Pike* test requires the courts to engage in a balancing test that considers the burden on interstate commerce created by state and local New York government, the purpose of the moratoria, and the alternatives available to accomplish that purpose.

Whether the actions of New York State and local governments violate the United States Constitution cannot be disregarded. This is an analysis that must be resolved as individuals, government officials, small business leaders, and large corporate officers make big decisions about what step to take next. As stated, this debate needs no embellishment.

Part II of this article details the process of horizontal drilling and high volume hydraulic fracturing as entailed in unconventional drilling for the recovery of shale gas and the potential hazards and consequences of these techniques. Part III presents the purpose, duration, challenges, and current status, of drilling bans and moratoria in New York State and its municipalities. Part IV enumerates the interstate and intrastate economics of the moratoria, bans, and natural gas consumption. Finally, Part V links the critical, foundational elements of the debate and applies the *Pike* balancing test to the competing interests in this hotly contested dispute with insight into the likely resolution.

II. UNCONVENTIONAL NATURAL GAS DRILLING AND PRODUCTION

The Marcellus Shale, which underlies southwestern New York and several other states, is estimated to hold between 84 and 141 trillion cubic feet in technically recoverable natural gas.²⁰ Twenty-eight counties in New York lie above the Marcellus Shale.²¹ The Marcellus Shale formation, altogether, could contain nearly 500 trillion cubic feet of gas—enough to power all American homes for 50 years at recent

19. Klass, *supra* note 18, at 193 (quoting *Pike*, 397 U.S. at 142).

20. *New York: State Profile and Energy Estimates*, *supra* note 12; *USGS Releases New Assessment of Gas Resources in the Marcellus Shale, Appalachian Basin*, U.S. GEOLOGICAL SURVEY, (Aug. 23, 2011), <http://www.usgs.gov/newsroom/article.asp?ID=2893#.UflG4rEo4dU>.

21. Diana Furchtgott-Roth and Andrew Gray, *The Economic Effects of Hydrofracturing on Local Economies: A Comparison of New York and Pennsylvania*, MANHATTAN INST. POLICY RESEARCH 8 (May 2013), <http://www.empirecenter.org/Documents/PDF/economicgrowth1.pdf>.

rates of residential use.²² The Utica Shale also contains about 38 trillion cubic feet of technically recoverable natural gas.²³ Forty-two counties in New York lie above the Utica Shale, which is just below the Marcellus formation.²⁴

“The natural gas found in the Marcellus Shale and the Utica Shale requires unconventional methods of extraction.”²⁵ In this instance, a combination of technologies, horizontal drilling, and high volume hydraulic fracturing provide economically feasible access to otherwise trapped natural gas.²⁶ “Hydraulic fracturing makes it possible to produce oil and natural gas in places where conventional technologies are ineffective.”²⁷

A. Horizontal Drilling and High Volume Hydraulic Fracturing

In order to genuinely understand the process many seek to ban and many others hope to utilize, a brief description of the actual process is required.

1. Location

To unconventionally drill and complete a well, the surface of the Earth must first be leveled for a well pad.²⁸ It is cleared to allow for

22. Susan L. Brantley and Anna Meyendorff, *The Facts on Fracking*, N.Y. TIMES (Mar. 13, 2013), <http://www.nytimes.com/2013/03/14/opinion/global/the-facts-on-fracking.html>.

23. *Assessment of Undiscovered Oil and Gas Resources of the Ordovician Utica Shale of the Appalachian Basin Province*, U.S. GEOLOGICAL SURVEY 5 (Sept. 2012), <http://pubs.usgs.gov/fs/2012/3116/FS12-3116.pdf> (last visited Apr. 4, 2014); *USGS Releases First Assessment of Shale Gas Resources in the Utica Shale: 38 Trillion Cubic Feet*, U.S. GEOLOGICAL SURVEY (Oct. 5, 2012), http://www.usgs.gov/newsroom/article.asp?ID=3419&from=rss_home#.UeBU57Eo4dU (last visited Apr. 4, 2014) [hereinafter *First Assessment of Utica Shale*].

24. Edelstein, *NY State Hydraulic Fracturing Bans*, *supra* note 3; *First Assessment of Utica Shale*, *supra* note 23.

25. Trisha A. Smrecak, PALEONTOLOGICAL RESEARCH INST., *Understanding Drilling Technology 6 MARCELLUS SHALE: THE SCIENCE BENEATH THE SURFACE 1* (Jan. 2012), http://www.museumoftheearth.org/files/marcellus/Marcellus_issue6.pdf (last visited Apr. 4, 2014).

26. *Id.*

27. *Hydraulic Fracturing Well Construction*, AM. PETROLEUM INST., <http://www.api.org/oil-and-natural-gas-overview/exploration-and-production/hydraulic-fracturing/hydraulic-fracturing-well-construction> (last visited Apr. 4, 2014).

28. Stephen Rountree & Stefan Estrada, *Breaking Fuel from the Rock*, NAT'L GEOGRAPHIC (Oct. 19, 2010), <http://news.nationalgeographic.com/news/2010/10/101022-breaking-fuel-from-the-rock> (last visited Apr. 4, 2014).

large equipment, a drilling waste plastic-lined pit, vehicles, pipes, and valves.²⁹ Aside from a smaller unit of pipes and valves left behind to capture gas, once the process is complete, the well site is reclaimed and re-graded after drilling.³⁰ This is important to many considering the aesthetics of drilling operations before, during, and after the process is completed.

2. *Vertical and horizontal drilling*

Producers drill through dozens of geological layers to reach the shale.³¹ Instruments guide drillers to the “kickoff point,” the start of an arc that levels off and continues horizontally when the drillers reach the shale layer.³² A well is then drilled laterally 3,000 to 5,000 feet.³³

3. *Casing and cementing*

Casing is then inserted into the borehole, and cement is pumped through the borehole to surround the casing.³⁴ These steps—casing and cementing—are important. The entire process includes steps to protect the water supply.³⁵ Casing and cementing are critical actions. Both casing and cementing are utilized “to ensure that neither the fluid that will eventually be pumped through the well, nor the oil or gas that will eventually be collected, enters the water supply.” Specifically, steel casings are inserted into the well, and the spaces between the casing ‘strings’ and the drilled hole are filled with cement.”³⁶ “This process is repeated, using smaller steel casing each time, until the oil and gas-bearing reservoir is reached”—usually 6,000 to 10,000 feet, or roughly seven Empire State Buildings, deep.³⁷

29. *Id.*

30. *Id.*

31. *Id.*

32. *Id.*

33. *Id.*

34. *Id.*

35. *Hydraulic Fracturing: The Process*, FRACFOCUS CHEMICAL DISCLOSURE REGISTRY, <http://fracfocus.org/hydraulic-fracturing-how-it-works/hydraulic-fracturing-process> (last visited Apr. 4, 2014).

36. *Id.*

37. *Id.*

This part of the process includes steps to protect the water supply.³⁸ “To ensure that neither the fluid that will eventually be pumped through the well, nor the oil or gas that will eventually be collected, enters the water supply, steel surface or intermediate casings are inserted into the well to depths of between 1,000 and 4,000 feet.”³⁹ “The space between these casing ‘strings’ and the drilled hole is filled with cement.”⁴⁰ “This process is repeated, using smaller steel casing each time, until the oil and gas-bearing reservoir is reached”—usually 6,000 to 10,000 feet, or roughly seven Empire State Buildings, deep.⁴¹

4. *High volume hydraulic fracturing (HVHF)*

Following the casing and cementing work, a perforating gun is inserted into the casing and an electrical charge is sent by wire to detonate a charge in the perforating gun, which blasts small holes through the casing and cement into the shale.⁴² High volumes of fracturing fluids (the actual HVHF stage) are pumped deep into the well at pressures sufficient to create the small fractures in the reservoir rock needed to make the production possible.⁴³ The small fractures free the trapped gas, which flows into the casing and up to the surface.⁴⁴ Some of the fracturing fluids flow with the gas to the surface, where they are pumped away for disposal.⁴⁵ The rest remains underground.⁴⁶

5. *To the pipeline*

“After a successful fracturing procedure, wells are tested using a controlled flaring process and are plugged while equipment is put in place to allow the well to move to the production phase.”⁴⁷

38. *Id.*

39. *Id.*

40. *Id.*

41. *Id.*

42. Rountree & Estrada, *supra* note 28.

43. *Hydraulic Fracturing: The Process, supra* note 38.

44. Rountree & Estrada, *supra* note 28.

45. *Id.*

46. *Id.*

47. *Hydraulic Fracturing*, MARCELLUS SHALE COALITION, <http://marcelluscoalition.org/marcellus-shale/production-processes/fracture-stimulation/> (last visited Apr. 4, 2014).

If the gas being extracted “is nearly free of impurities, it can be immediately sold by the gas industry to the pipeline industry, transported to a final gas processing plant and placed on the market.”⁴⁸ “If there is a high level of water or hydrocarbon liquids in the gas, or if the gas contains corrosive gases, . . . the gas must be processed in the field before being sold to the pipeline industry.”⁴⁹ “Once the gas is of a high enough quality to be sold to the pipeline for final processing and sale on the market, it is collected by gathering lines which feed into compressor stations and metering sites.”⁵⁰ “These stations connect to larger pipelines owned by pipeline companies who distribute and sell natural gas to utilities.”⁵¹

Depending upon the content, the gas may need additional processing prior to being sold. The gas is then “sold to the pipeline for final processing and sale on the market, collected by gathering lines which feed into compressor stations and metering sites, and then the pipeline companies distribute and sell natural gas to utilities.”⁵²

B. The Concerns and the Risks

The end result of horizontal drilling and HVHF is natural gas, a cleaner-burning source of energy. The process of recovering natural gas from shale rock, described above, is a technical procedure. Regardless of whether one understands the methods utilized at altitude, or down in the trenches of technical terminology, the concerns remain the same: what can go wrong and what if it does go wrong? Potential dangers associated with the unconventional production of natural gas include water shortages, air and water pollution, wastewater disposal dilemmas, and earthquakes.⁵³

48. Smrecak, *supra* note 25.

49. *Id.* (citing Norman J. Hyne, *NONTECHNICAL GUIDE TO PETROLEUM GEOLOGY, EXPLORATION, DRILLING AND PRODUCTION* (2d ed. 2001)).

50. Smrecak, *supra* note 25.

51. *Id.*

52. *Id.*

53. *Energy in Brief*, *supra* note 1; Steven J. Eagle, *A Prospective Look at Property Rights and Environmental Regulation*, 20 *GEO. MASON L. REV.* 725, 729 (2013) (citing Nancy D. Perkins, *The Fracturing of Place: The Regulation of Marcellus Shale Development and the Subordination of Local Experience*, 23 *FORDHAM ENVTL. L. REV.* 44, 48–49 (2012)).

As detailed above, HVHF requires large amounts of water.⁵⁴ In some locations, allocating enough water for HVHF may impact the availability of water for other uses, including aquatic habitats.⁵⁵ Second, there is potential for air pollution when natural gas flares from production operations, releasing methane and other volatile organic compounds into the atmosphere.⁵⁶ Third, if negligently handled, hydraulic fracturing fluid, which is comprised of potentially hazardous chemicals, can be released by spills, leaks, faulty casing, or defective cementing.⁵⁷ Any such incidents could contaminate surrounding areas.⁵⁸ Fourth, “fracturing also produces large amounts of wastewater, which may contain dissolved chemicals and other contaminants that could require treatment before disposal or reuse.”⁵⁹ With the massive amount of water used and the chemicals added to the water, treatment and disposal are important and challenging issues.⁶⁰ Finally, according to the United States Geological Survey, hydraulic fracturing and post-fracturing disposal of wastewater in injection wells causes small earthquakes, but fortunately, they are almost always too small to be a safety concern.⁶¹

These potential hazards—avoiding them and correcting them when necessary—are substantial obstacles to any decision to go forward and pursue unconventional drilling. While great strides are being made, technology and even the most careful and cautious work of the natural gas industry cannot make the process foolproof or risk free. No one—not the locals, not the big companies, and not any other party in between—wants the losses that could occur if errors are made. New Yorkers at the local and state level recognized these inherent risks and are opting not to take the gamble presently.

54. *Energy in Brief*, *supra* note 1.

55. *Id.*

56. *Understanding the Basics of Gas Flaring*, OHIO ENVTL. PROT. AGENCY 2, (May 2012), <http://www.epa.state.oh.us/portals/0/General%20pdfs/gas%20flaring.pdf> (last visited Mar. 12, 2014).

57. *Energy in Brief*, *supra* note 1.

58. *Id.*

59. *Id.*

60. *Id.*

61. *Id.*; *Introduction to Hydraulic Fracturing*, U.S. GEOLOGICAL SURVEY, http://www.usgs.gov/hydraulic_fracturing/ (last visited Apr. 4, 2014).

III. NEW YORK: BANS AND MORATORIA

“New York State has a long history of natural gas drilling.”⁶² The earliest gas wells were drilled in 1825 in New York, and “by 1857 engineers had discovered that if they fractured rock layers at the base of a gas well, the process stimulated greater flow of gas from the rock.”⁶³ Natural gas is a common source of fuel for heating and lighting, “and many rural properties in central and western New York have been leased and drilled.”⁶⁴ The original wells drilled were vertical, conventionally-drilled gas wells.⁶⁵

With the discovery of the Marcellus and Utica Shale, a new round of oil and gas lease acquisitions began in New York State around 2005.⁶⁶ New Yorkers began learning about the drilling and completion process necessary to produce gas from the Marcellus and Utica shale, horizontal drilling and high volume hydraulic fracturing.⁶⁷ “The leases started prompting community meetings in 2008.”⁶⁸ Some residents became concerned about the potential dangers associated with this drilling and completion method.⁶⁹ There were reports of air and water pollution in other states where horizontal drilling and HVHF operations were already moving forward.⁷⁰ Signing the leases could be a difficult decision.⁷¹ Leasing could bring desperately needed individual economic reward, a booming local industry, and abundant energy to the State.⁷² Alternatively, if any errors or mistakes were made

62. Karen Edelstein, *NY Local Land Use Laws Upheld in Challenges to Municipal Drilling Prohibitions*, FRACTRACKER.ORG (Mar. 1, 2012), <http://www.fractracker.org/2012/03/ny-local-land-use-laws-upheld-in-challenges-to-municipal-drilling-prohibitions/> (last visited Apr. 4, 2014) [hereinafter Edelstein, *NY Local Land Use Laws Upheld*].

63. *Id.*; *A History of Oil & Gas Drilling in New York State*, UN-NATURALGAS.ORG, <http://www.un-naturalgas.org/history.htm> (last visited Apr. 4, 2014) (citing Arch Merrill, *A RIVER RAMBLE: SAGA OF THE GENESEE VALLEY* (2d ed. 1956)).

64. Edelstein, *NY Local Land Use Laws Upheld*, *supra* note 62.

65. *Id.*

66. *Id.*; Shannon Ayala, *The Story of NYS's Fracking Moratorium*, EXAMINER.COM (Nov. 29, 2011), <http://www.examiner.com/article/the-story-of-nys-s-fracking-moratorium> (last visited Apr. 4, 2014).

67. Edelstein, *NY Local Land Use Laws Upheld*, *supra* note 62.

68. Ayala, *supra* note 66.

69. Edelstein, *NY Local Land Use Laws Upheld*, *supra* note 62.

70. *Id.*

71. Ayala, *supra* note 66.

72. *Id.*

while drilling and completing, there could be significant risks to those who leased, to neighbors who didn't sign, and potentially to distant communities.⁷³

A. New York State

At the state level, New York State Governor David Paterson instituted New York's HVHF moratorium in July 2008.⁷⁴ HVHF would only be allowed in the state after the New York State Department of Environmental Conservation conducted a Generic Environmental Impact Statement and a Supplemental Generic Environmental Impact Statement (SGEIS).⁷⁵ The State would allow HVHF to resume if the individual companies established their own Environmental Impact Statement, but this would be too lengthy and costly of a process.⁷⁶

Drafting this Statement is so time consuming that New York is still in the process of preparing its (now) second version of the SGEIS, over five years after the signing of Governor Paterson's law.⁷⁷ Until the SGEIS is final, there is a de facto moratorium on the issuance of drilling permits.⁷⁸

B. New York Locally

At the local level, as of June 2013, sixty-one municipalities have passed permanent bans on HVHF and 111 municipalities have enacted temporary moratoria.⁷⁹ Eighty-eight more towns are considering the

73. *Id.*

74. Robert Grimaldi, *Fracking Companies' Two-Front War: Battling Time and Local Government Bans*, NEW YORK STATE FRACKING UNPLUGGED (May 14, 2013), <http://nysfrackingunplugged.wordpress.com/2013/05/14/fracking-companies-two-front-war-battling-time-and-local-government-bans/#more-223> (last visited Apr. 4, 2014) [hereinafter Grimaldi, *Fracking Companies' Two-Front War*]; Ayala, *supra* note 66.

75. *Id.*

76. *Id.*

77. *Id.*

78. John R. Nolon, *Summary of Cooperstown Holstein Corporation v. Town of Middlefield*, RAPPORT MEYERS, LLC (July 23, 2012), <http://rapportmeyers.blogspot.com/2012/07/summary-of-cooperstown-holstein.html> (last visited Apr. 4, 2014).

79. Edelstein, *NY State Hydraulic Fracturing Bans*, *supra* note 3 (noting that within the area of New York State that overlies the Utica Shale, "the major population centers, including Buffalo, Rochester, Syracuse, Binghamton, Union, Utica, and Albany have all enacted bans or

need for bans or moratoria.⁸⁰ On a town-by-town basis, population-dense and rural areas alike are actively working to determine whether or not they will take on the risks of horizontal drilling and HVHF within their communities.⁸¹

The language, while significant to some of the nuances of the legal challenges to the bans or moratoria, is similar from town to town and is predicated on the general purpose “to promote the protection, order, conduct, safety, health, and well-being of [town name] and the lands which lie within the Town’s borders.”⁸² The individual town’s language may be more specific or slightly different, but it will be (or should be) based upon local zoning laws and local authority.⁸³

C. Challenging the Locals

Advocates of HVHF are pursuing legal challenges against the towns of Dryden, Middlefield, and Sidney, which have permanently banned gas drilling through zoning.⁸⁴ Plaintiffs in the Dryden and Middlefield cases asserted that the towns lack the legal authority necessary to adopt these zoning restrictions.⁸⁵ Specifically, plaintiffs argue that New York State’s Environmental Conservation Law preempts the towns’ authority and defers regulatory oversight of drilling to the state.⁸⁶ Attorneys for Dryden and Middlefield argued

moratoria. . . . Large urban centers account for more than 13% of the population in the area over the shale-gas formation that have enacted local prohibitions. These municipalities, along with more than 150 more across the region, (accounting for more than 28% of the region’s total population) have taken precautions” against the risks inherent in HVHF by enacting local prohibitions on it).

80. *Id.*

81. *Id.*

82. Stanley Fish, *The Andes Chronicles: A Ban on Hydraulic Fracturing*, N.Y. TIMES (Mar. 18, 2013, 9:00 PM), <http://opinionator.blogs.nytimes.com/2013/03/18/the-andes-chronicles-a-ban-on-hydraulic-fracturing/>).

83. *Id.*

84. Nolon, *supra* note 78; Grafe-Kieklak, *supra* note 16.

85. *Cooperstown Holstein Corp. v. Town of Middlefield*, 106 A.D.3d 1170, 1171, *leave to appeal granted*, 21 N.Y.3d 863, 995 N.E.2d 851 (N.Y. Sup. Ct. App. Div. 3rd 2013); *Norse Energy Corp. USA v. Town of Dryden*, 108 A.D.3d 25, 28, *leave to appeal granted*, 995 N.E.2d 851 (N.Y. Sup. Ct. App. Div. 3rd 2013).

86. Nolon, *supra* note 78; Paula Dittrick, *New York Appeals Court Says Towns Can Ban Hydraulic Fracturing*, OIL & GAS JOURNAL (May 2, 2013), <http://www.ogj.com/articles/2013/05/new-york-appeals-court-says-towns-can-ban-hydraulic-fracturing.html>.

that a “home use” clause in state law gives them the authority to enact such bans utilizing their zoning laws.⁸⁷

The New York State Supreme Court Appellate Division ruled in favor of the towns of Dryden and Middlefield by upholding the zoning laws in early May 2013.⁸⁸ The appeals court held that townships in New York State can ban horizontal drilling and HVHF within municipal borders.⁸⁹ “While the town’s exercise of its right to regulate land use through zoning will inevitably have an incidental effect upon the oil, gas, and solution mining industries, we conclude that zoning ordinances are not the type of regulatory provision that the Legislature intended to be preempted by the New York Oil, Gas, and Solution Mining Law.”⁹⁰ Appeals are being pursued by the plaintiffs in both cases.⁹¹ Given the court’s decision and the March 2013 state-level extension of the moratorium, HVHF opponents presently have a very strong position in New York.⁹² They have been fueled to continue encouraging additional local governments to ban horizontal drilling and HVHF within their borders.⁹³

IV. ECONOMIC LOSS OF BANS AND MORATORIA AND CONSUMPTION

Whether an opponent or advocate of unconventional drilling, both sides recognize that not drilling in New York while simultaneously consuming natural gas has intrastate and interstate economic impact. With regards to the petroleum industry in general, a recent report from the American Petroleum Institute argued that “each direct job in the oil and natural gas industry supported approximately 2.7 jobs elsewhere in the US economy in 2011.”⁹⁴ It also estimated that the oil

87. Dittrick, *supra* note 86.

88. *Id.*

89. *Id.*

90. *Id.*

91. Robert Grimaldi, *Pro-Fracking Parties Seek Appeal in New York State’s Highest Court*, NEW YORK STATE FRACKING UNPLUGGED (June 6, 2013), <http://nysfrackingunplugged.wordpress.com/2013/06/06/pro-fracking-parties-seek-appeal-in-new-york-states-highest-court/#more-229> [hereinafter Grimaldi, *Pro-Fracking Parties Seek Appeal*].

92. *Id.*

93. Grimaldi, *Fracking Companies’ Two-Front War*, *supra* note 74.

94. Brad Plumer, *The U.S. Oil and Gas Boom Has Had a Modest Economic Impact—So Far*, WASHINGTON POST (April 23, 2013 11:01 AM), <http://www.washingtonpost.com/blogs/>

and gas industry had impacts on about 7.3 percent of the GDP in 2011.⁹⁵

A. Economic Loss

The natural gas industry supports millions of jobs, either directly through companies engaged in exploration and drilling or indirectly through manufacturers that use the fuel as a raw material.⁹⁶ The real potential for economic impact, however, lies in the vast reservoirs of shale gas accessible through unconventional drilling.⁹⁷ In prohibiting the drilling and production of a significant segment of the United States' shale gas, New York and New York towns are creating an economic loss.

The economic impact of horizontal drilling and HVHF prohibitions is best quantified by comparison to similarly situated states that *are* developing their Marcellus Shale gas reservoirs. There is significant data from neighboring Pennsylvania.⁹⁸ Nearly 5,000 wells have utilized HVHF since 2002.⁹⁹

Using the Pennsylvania data to project the effect drilling for shale gas would have in New York, one study found that the income of residents in the twenty-eight New York counties above the Marcellus Shale could potentially expand by fifteen percent or more over the next four years if the moratoria were lifted.¹⁰⁰ Projects estimate that reopening New York's shale formation to horizontal drilling and HVHF could result in \$11.4 billion in economic output and create 15,000 to 18,000 jobs in southwestern counties alone.¹⁰¹

The New York State Department of Environmental Conservation commissioned a study of potential HVHF-spurred growth in the

wonkblog/wp/2013/04/23/the-oil-and-gas-boom-has-had-a-surprisingly-small-impact-on-the-u-s-economy/ (citing *Economic Impacts of the Oil and Natural Gas Industry on the US Economy in 2011*, AM. PETROLEUM INST. at E2 (July 31, 2013), http://www.api.org/~media/Files/Policy/Jobs/Economic_Impacts_ONG_2011.pdf) (last visited Apr. 4, 2014).

95. *Id.*

96. Shelly K. Schwartz, *Can the Natural Gas Sector Save the US Economy?*, CNBC.COM (June 20, 2012, 9:41 AM), <http://www.cnbc.com/id/47280026/page/1> (last visited Apr. 4, 2014).

97. *Id.*

98. Furchtgott-Roth, *supra* note 21, at 1–2.

99. *Id.* at Executive Summary.

100. *Id.* at 2.

101. *Id.*

state.¹⁰² With an average projection for growth, HVHF would directly create almost 25,000 jobs in well construction and operation and 29,000 jobs in indirectly influenced industries.¹⁰³ These 54,000 jobs would, in 2010, have represented approximately 0.7 percent of the labor force.¹⁰⁴

If New York allowed development, Marcellus Shale production could reach 6 billion cubic feet per day in 2015 and over 9 billion cubic feet per day by 2020.¹⁰⁵ Cumulative production over this period would constitute about 8.5 percent of recoverable reserves.¹⁰⁶ The Marcellus gas deposits will last generations, and with the promising Utica Shale just below it the resource base could extend for almost a century.¹⁰⁷ These resources could provide the region and the Nation with the means to generate significant income and wealth and an increased domestic supply of natural gas.¹⁰⁸

B. Consumption

With respect to natural gas, through residential, industrial, and commercial use, New Yorkers consume approximately 1,216,532 million cubic feet of natural gas, or approximately five percent of the natural gas consumed within the United States annually.¹⁰⁹ New York's total energy consumption is among the highest in the United States.¹¹⁰ Instead of developing its oil and natural gas resources, New York relies principally on oil and gas supplies from other states, Canada, and overseas.¹¹¹ The State's electricity is mainly produced by natural gas,

102. *Id.*

103. *Id.*

104. *Id.*

105. Timothy J. Considine, *The Economic Impacts of the Marcellus Shale: Implications for New York, Pennsylvania, and West Virginia*, NATURAL RES. ECON. 31 (July 14, 2010), <http://www.api.org/~media/Files/Policy/Exploration/API-Economic-Impacts-Marcellus-Shale.pdf>.

106. *Id.* at 34.

107. *Id.* at 36.

108. *Id.*

109. *New York: State Profile and Energy Estimates*, *supra* note 12.

110. *New York: An Energy and Economic Analysis*, INST. ENERGY RESEARCH (July 19, 2013), <http://www.instituteforenergyresearch.org/2013/07/19/new-york-an-energy-and-economic-analysis/>.

111. *Id.*

but nuclear power and hydroelectric power also supply a significant portion of electricity to consumers.¹¹² New York has some of the highest energy prices in the nation.¹¹³ A local supply of fuel could reduce costs. In 2012, its electricity price was the fourth highest and in July 2013,¹¹⁴ its gasoline price was ranked the eighth highest in the Nation by AAA.¹¹⁵ Almost fifty-six percent of New York homes are heated with natural gas, compared to almost thirty percent who use home heating oil.¹¹⁶

V. NEW YORK AND THE DORMANT COMMERCE CLAUSE

The Commerce Clause—Article I, Section 8, Clause 3 of the United States Constitution—grants Congress the power “to regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes.”¹¹⁷ The Commerce Clause has an expansive history, and the Supreme Court has interpreted it to expressly grant authority to Congress, and limit the power of the states, to regulate commerce.¹¹⁸ The Constitution does not define “commerce,” and this has provided the Supreme Court with the opportunity to shape the power of Congress or the states, depending on the circumstances of the case and the “commerce” at issue.¹¹⁹

A. *The Dormant Commerce Clause’s Balancing Test*

The Supreme Court has held that the Commerce Clause limits states’ ability to “unjustifiably . . . discriminate against or burden the interstate flow of articles of commerce.”¹²⁰ The common law stemming

112. *Id.*

113. *Id.*

114. *Id.* (citing *Electric Power Monthly with Data for December 2012*, U.S. ENERGY INFO. ADMIN. at Table 5.6.B (Feb. 2013), www.eia.gov/electricity/monthly/current_year/february2013.pdf).

115. *Id.*

116. *Id.*

117. U.S. CONST. art. I, § 8, cl. 3.

118. *Id.* See also *NLRB v. Jones & Laughlin Steel Corp.*, 301 U.S. 1 (1937); *United States v. Lopez*, 514 U.S. 549 (1995).

119. *Id.*

120. Steven Ferrey, *Sustainable Energy, Environmental Policy, and States’ Rights: Discerning the Energy Future Through the Eye of the Dormant Commerce Clause*, 12 N.Y.U. ENVTL. L.J. 507, 578–79 (2004) (citing *Or. Waste Sys., Inc. v. Dep’t of Env’tl. Quality*, 511 U.S. 93, 98 (1994)); see

from Commerce Clause decisions has created the “dormant Commerce Clause,” which has been interpreted as a limitation on states’ seemingly intrastate regulation powers that impact interstate commerce.¹²¹ State laws that clearly burden out-of-state competitors while benefiting in-state economic interests are unconstitutional.¹²²

Depending on the language and the effect of the state regulation, different levels of judicial scrutiny and different standards of review are applied.¹²³ Where a regulation clearly discriminates against interstate commerce on its face, that regulation violates the Constitution unless a state can demonstrate the discrimination is unrelated to protectionism.¹²⁴ State and local measures undertaken for protecting the local economy based on geographic discrimination against certain commerce will almost always be struck down as per se unconstitutional.¹²⁵

If a state exercises traditionally-recognized state police powers (health, environment, natural resources, and safety) and does not discriminate based on geography, but the effect is to discriminate against interstate commerce, the court will engage in a balancing test.¹²⁶ The court will balance the interests of the state against the burden on commerce, consider alternatives, and evaluate less offensive means of accomplishing the local regulation’s purpose.¹²⁷ Unless the burden on interstate commerce is excessive in relation to the local

Steven E. Clyde, *State Prohibitions on the Interstate Exportation of Scarce Water Resources*, 53 U. COLO. L. REV. 529 (1982); David Day, *Revisiting Pike: The Origins of the Nondiscrimination Tier of the Dormant Commerce Clause Doctrine*, 27 HAMLINE L. REV. 45 (2004); Karen L. Fiorni, *Issues of Federalism in Hazardous Waste Control: Cooperation or Confusion?*, 6 HARV. ENVTL. L. REV. 307 (1982); Maxwell L. Stearns, *A Beautiful Mend: A Game Theoretical Analysis of the Dormant Commerce Clause Doctrine*, 45 WM. & MARY L. REV. 1 (2003); Mark Tushnet, *Rethinking the Dormant Commerce Clause*, 1979 WIS. L. REV. 125 (1979).

121. Ferrey, *supra* note 120120, at 578.

122. *Id.* at 579 (citing *Sporhase v. Nebraska ex rel Douglas*, 458 U.S. 941, 957–58 (1982); *Lewis v. BT Inv. Mgrs., Inc.*, 447 U.S. 27 (1980); *Dean Milk Co. v. Madison*, 340 U.S. 349 (1951)).

123. Ferrey, *supra* note 120120, at 579.

124. *Id.* at 580 (citing *C & A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383, 402 (1994)).

125. Ferrey, *supra* note 120, at 580.

126. *Id.*

127. *Id.* (citing *Hughes v. Oklahoma*, 441 U.S. 322, 342 (1979); *City of Philadelphia*, 437 U.S. 617, 624 (1978); *Dean Milk Co. v. City of Madison*, 340 U.S. at 354 (1951)).

benefits, a nondiscriminatory regulation that is based on a legitimate state interest will be found constitutional.¹²⁸

Under the *Pike* balancing test, the challenged statute must advance a legitimate public interest without imposing a burden on commerce that is clearly excessive in relation to the local benefits.¹²⁹ The balancing test will be applied to determine whether, given the circumstances, it should be upheld.¹³⁰ This balancing test will tolerate a greater burden when the local interest is significant and the desired goal could not be attained as well with a less burdensome approach.¹³¹

B. *Unconstitutional? Applying the Law*

New Yorkers consume natural gas. New Yorkers are sitting atop a massive amount of unproduced and technically retrievable natural gas in the form of shale gas. New Yorkers are concerned about the inherent risks and potential dangers associated with horizontal drilling and HVHF. New Yorkers have taken significant steps at the state and local level to prohibit the unconventional drilling process necessary to obtain the shale gas. Consequently, New Yorkers import the natural gas that they consume.

Given these facts, are the actions of the State of New York and respective towns unconstitutional? Is the failure to issue permits by the State or the bans and moratoria a violation of the dormant Commerce Clause? The language used by the State of New York and the individual towns with bans or moratoria in place is arguably not discriminatory on its face with respect to interstate commerce. The court is unlikely to find economic protectionism as the purpose

128. *Id.* at 581 (citing *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 142 (1970) (“Where the statute regulates even-handedly to effectuate a legitimate local public interest, and its effect on interstate commerce are only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to putative local benefit. . . . And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities”).

129. *Id.* at 581 (citing *Pike*, 397 U.S. at 142).

130. *Id.* at 581.

131. *Id.* at 582 (citing *Pike*, 397 U.S. at 145; *Blue Circle Cement v. Bd. of County Comm’rs*, 27 F.3d 1499, 1512 (10th Cir. 1994) (holding that “this broader analysis requires the court to scrutinize (1) the nature of the putative local benefits advanced by the Ordinance; (2) the burden the Ordinance imposes on interstate commerce; (3) whether the burden is ‘clearly excessive in relation to’ the local benefits; and (4) whether the local interests can be promoted as well with a lesser impact on interstate commerce”).

directing government action. For example, New York is not prohibiting the importing of out-of-state natural gas while producing in-state natural gas. As an additional example, New York is not prohibiting out-of-state companies from drilling and producing shale gas; it is prohibiting *all* companies from exploration and production of shale gas. Accordingly, the inquiry is the one laid out by *Pike*, in which the U.S. Supreme Court held that

[w]here the statute regulates even-handedly to effectuate a legitimate local public interest, and its effect on interstate commerce are[sic] only incidental, it will be upheld unless the burden imposed on such commerce is clearly excessive in relation to the putative local benefit. . . . And the extent of the burden that will be tolerated will of course depend on the nature of the local interest involved, and on whether it could be promoted as well with a lesser impact on interstate activities.¹³²

In *Hughes v. Oklahoma*,¹³³ the Court added to the inquiry

(1) whether the challenged statute regulates evenhandedly with only “incidental” effect on interstate commerce, or discriminates against interstate commerce either on its face or in practical effect; (2) whether the statute serves a legitimate local purpose; and, if so, (3) whether alternative means could promote this local purpose as well without discriminating against interstate commerce.¹³⁴

This instructive language provides the legal analysis roadmap. First, as indicated above, on its face and in practical effect, the language at issue (even with variation from one town to another) is not discriminatory in the sense that New Yorkers are being protected from out-of-state competition at the expense of the out-of-state competition.

The second step of the inquiry is whether the effect on interstate commerce is incidental. The numbers associated with the supply of natural gas available with the Marcellus and Utica shale in New York alone make it unmistakable that the effect on interstate commerce is not incidental. When combining the supply of natural gas available and the economics of that commodity, along with the jobs that drilling and

132. *Pike*, 397 U.S. at 142.

133. *Hughes v. Oklahoma*, 441 U.S. 322 (1979).

134. *Id.* at 336.

producing that natural gas would create directly, the effect is not incidental; in fact, it is enormous. If the jobs that the natural gas boom would support with respect to pipelines, refineries, and even the so-called indirect jobs are considered, the effect grows even greater. Additionally, with certain projections indicating that increased natural gas production could allow for LNG exports and the potential for manufacturing jobs to return to the United States, the economic impact on interstate commerce is vast. Finally, when the economic loss is coupled with New York's own consumption of natural gas, the weight that New York has placed on interstate commerce cannot be understated.

Third, the purpose of the bans and moratoria by the local and state governments must be considered. In short, the moratoria exist out of a concern for the pollution hazards that are risks with unconventional drilling. The *potential* pitfalls the government seeks to avoid are substantial—polluted water, polluted air, associated health issues, aesthetic impairment, and others. New York State's moratorium is now entering its sixth year because a formal supplemental review of the environmental impacts of horizontal drilling and HVHF has not been finalized.¹³⁵ In other words, New York State is formally evaluating unconventional drilling's environmental impacts prior to issuing any of the requisite drilling permits. Locally, the individual towns have their own language that they have adopted as they have passed their respective bans or moratoria. They are all similar in nature: based upon the health and safety of the community.¹³⁶ Protecting human health and life is an immense purpose that often causes significant fear and stirs swelled emotions.

Finally, the *Pike* analysis requires analysis of whether alternative means could promote the local purpose without discriminating against interstate commerce. Currently, New York State has undertaken the supplement to the Generic Environmental Impact Statement. After five years of discussion, study, and comments and revisions, the mechanisms to lessen the potential hazards of unconventional drilling

135. Yvonne Hennessey, *New York's Moratorium on Shale Development Hits the Five Year Mark*, HISCOCK & BARCLAY (July 23, 2013, 7:59 AM), <http://hblaw.com/blog/energymatters/new-yorks-moratorium-on-shale-development-hits-the-five-year-mark>.

136. Fish, *supra* note 82.

are available.¹³⁷ As noted above in the explanation of the unconventional drilling process, the casing and cementing process is critical and deserves full attention, as does the entire process. Pilot wells and incremental schemes or staging of the drilling and production and a multitude of other proposals can achieve the goals the moratoria seek to accomplish. Through industry initiative and government regulation and oversight, unconventional drilling can proceed and the significant burdens created by the moratoria can be lifted. It is doubtful that an outright ban can continue to be justified.

In evaluating each of these factors together, the question of constitutionality is open for argument; the balance can shift, depending upon which element of the analysis is emphasized. Advocates of unconventional drilling will underscore the sweeping economic impact on interstate commerce the bans have created and continue to perpetuate, the simultaneous and arguably hypocritical consumption of a natural resource by New Yorkers, the significant bearing on energy independence and security, the loss of the international opportunity to export a natural resource and finally, the availability to take protective measures through regulation and oversight. Opponents of unconventional drilling will focus on the hazards that the bans avoid, namely: air, water, soil, and aesthetic pollution. Both sides have passion, and both sides have a powerful tool—the United States Constitution—to argue for their benefit. Resolving this issue will not be small, will not be immediate, and will have an impact far beyond New York.

VI. CONCLUSION

As a final note, let us accept that the State of New York will take action in the next twelve months (Governor Cuomo has said he will make a decision by the 2014 elections¹³⁸). Assuming that New York State allows for permits to be issued once again, the local bans or

137. N.Y. DEP'T ENVTL. CONSERVATION, *Revised Draft SGEIS on the Oil, Gas and Solution Mining Regulatory Program, Well Permit Issuance for Horizontal Drilling and High Volume Hydraulic Fracturing in the Marcellus Shale and Other Low-Permeability Gas Reservoirs* (proposed Sept. 2011), <http://www.dec.ny.gov/energy/75370.html>.

138. Steve Israel, *Steve Israel: End 5-year Fracking Fight, Let Science Decide*, TIMES HERALD RECORD (July 28, 2013), <http://www.recordonline.com/apps/pbcs.dll/article?AID=/20130728/NEWS/307280338>.

moratoria still remain, and with the decisions in *Cooperstown Holstein Corp. v. Town of Middlefield* and *Norse Energy Corp. v. Town of Dryden*, these moratoria are protected from preemption and Takings Clause arguments.¹³⁹ The conflict with the dormant Commerce Clause still exists. This analysis, this issue, is not going to disappear as long as the local bans or moratoria continue. The trend appears that the bans are increasing in number, not decreasing.¹⁴⁰ Accordingly, this discussion is one for all who participate in this industry and who follow these events to bear in mind. New Yorkers will continue to consume natural gas and, to the extent that the local governments take steps that may seem to only be local in nature, the United States Supreme Court may ultimately step in to remind us all once again that we do not exist in isolation.

Decisions about unconventional drilling must be resolved with the multitude of considerations and parties at issue.¹⁴¹ In a dormant Commerce Clause analysis—balancing the harm to interstate commerce, the potential risks of the drilling and completion process, and the availability of alternative means on the part of the government—demands precision and not emotion.¹⁴² Whether the seemingly independent actions of local and state governments violate the United States Constitution cannot be disregarded. Determining whether New York State and local governments' moratoria on unconventional drilling violate the dormant Commerce Clause affects us all, and the Constitution and its application will ultimately resolve the issue.

139. Grimaldi, *Pro-Fracking Parties Seek Appeal*, *supra* note 91 (noting that “New York appellate courts have resolved any potential for conflict between state and local control over the regulation of the oil and gas industry. False Harmonizing the state statute and local ordinance, the court declared: ‘The state maintains control over the “how” of such [oil and gas drilling] procedures while the municipalities maintain control over the “where” of such exploration’ and that a locality might ban mining ‘in furtherance of its land use authority’”).

140. See, e.g., Edelstein, *NY State Hydraulic Fracturing Bans*, *supra* note 3.

141. Furchtgott-Roth, *supra* note 21, at 10.

142. *Id.*